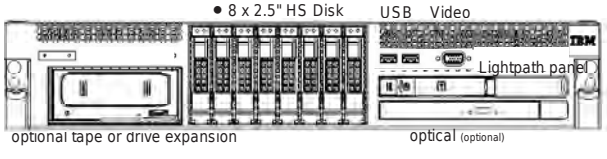
IBM System x3650 M3

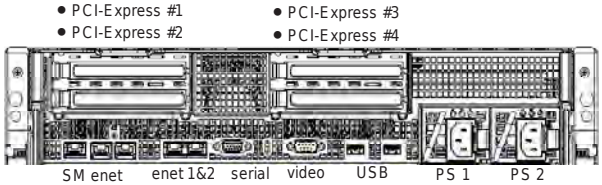
xREF by STG Field Skills and Education Team

IBM® Type-model	Qty x Processor/Core	L3 cache	Memory	Disk	Optical	Power Supply	Disk bays	Slots x bays	Ethernet	Available date
7945-12x	1 x Xeon® E5603 1.80GHz/4C	4MB	1x4GB	2.5" Open	open	1 x 460W	8 hot-swap	4x9	2 x Gb	Mar 2011
7945-22x	1 x Xeon E5606 2.13GHz/4C	8MB	1x4GB	2.5" Open	open	1 x 460W	8 hot-swap	4x9	2 x Gb	Mar 2011
7945-32x	1 x Xeon E5607 2.26GHz/4C	8MB	1x4GB	2.5" Open	open	1 x 460W	8 hot-swap	4x9	2 x Gb	Mar 2011
7945-D4x	1 x Xeon E5620 2.40GHz/4C	12MB	1x4GB	2.5" Open	open	1 x 460W	8 hot-swap	4x9	2 x Gb	Mar 2011
7945-H4x	1 x Xeon L5640 2.26GHz/6C	12MB	1x4GB	2.5" Open	open	1 x 460W	8 hot-swap	4x9	2 x Gb	Mar 2011
7945-52x	1 x Xeon E5645 2.40GHz/6C	12MB	1x4GB	2.5" Open	open	1 x 460W	8 hot-swap	4x9	2 x Gb	Mar 2011
7945-54x	1 x Xeon E5645 2.40GHz/6C	12MB	2x4GB	2.5" Open	open	2 x 675W HE	8 hot-swap	4x9	2 x Gb	Mar 2011
7945-62x	1 x Xeon E5649 2.53GHz/6C	12MB	1x4GB	2.5" Open	open	1 x 460W	8 hot-swap	4x9	2 x Gb	Mar 2011

Positioning	*Flagship business critical server to significantly lower Total Cost of Ownership packed with IBM innovation*
Processor(s)	**Up to two Next Generation Intel® Xeon processors featuring Quick Path Interconnect(QPI) technology at up to 3.46GHz with up to 12MB L3 / up to 6 Core** / with **Intel Turbo Boost Technology and Hyper-Threading**
L3 cache	Up to 12MB std and max / at processor speed
SMP	2-way SMP / up to two Xeon Processors (same speed/cache size)
Implementation	Systemboard contains two Socket B (LGA1366) sockets, eighteen DIMM slots, four PCI-E slots, integrated SAS, ethernet and graphics controllers
Memory	Up to 12GB std / **96GB** max per processor(using 16GB DIMMs) / **PC3-10600 1333MHz LP 240-pin Registered ECC DDR3 SDRAM DIMMs (or up to 12 DIMMS / 24GB of UDIMM)** / eighteen slots on systemboard / nine DIMMS per processor / ChipKill / memory mirroring / Supports two DIMMs per channel at 1333MHz for L5640 and X5600 series processors
Disk Controller	**IBM ServeRAID BR10il v2** SAS/SATA controller / 12x / on riser card / PCI-Express / supports **RAID-0/1/1E** / **IBM ServeRAID M1015** SAS/SATA controller / 22x, 32x, D4x / on riser card / PCI-Express / supports **RAID-0/1/10** / **IBM ServeRAID M5014** SAS/SATA controller / 52x, 54x, 62x / on riser card / PCI-Express / supports **RAID-0/1/10/5/50** / **IBM ServeRAID M5015** with battery / H4x / on riser card / PCI-Express / supports **RAID-0/1/10/5/50** / SATA controller for optional optical integrated into ICH10
Disk bays	**Eight 2.5-inch Small Form Factor (SFF)** hot swap disk bays std / optional expansion to sixteen SFF hot swap disk bays / supports SAS, SATA or SSD SFF HS disks , allow mixing different drives
Flash Storage	USB-based slot on SAS riser card for optional Hypervisor USB key
Tape backup	Optional internal and external / 3.5" / USB or SATA connected via SAS riser card
Mechanical	**EIA 19" Rack (2U[4])** / rack-mount only / supported in IBM NetBAY™ Rack products / no rack to tower conversion
Architecture/Chipset	**Intel 5520 Chipset** / Intel IO Hub provides PCI-Express slots and links to BCM5709C, enterprise south bridge interface to ICH10 South Bridge / ICH10 South Bridge provides: USB, SATA, PCI-Express links to SAS/SATA controller and LPC bus to VSC452 for video and limited Super I/O
BUS slots	(See below) Four second-generation PCI-Express x8 slots / convertible via riser(s) to two PCI-E x16 or four 64-bit 133MHz PCI-X
Ethernet	**Two** Gigabit Ethernet ports / Broadcom® 5709C / two full gigabit ethernet MAC and PHY layer functions / integrated / PCI-Express / full duplex / TCP/IP Offload Engine (TOE) / Wake on LAN® / Serial over LAN / PXE 2.0 / Failover, adapter fault tolerance / Load balancing / upgradeable to four Ethernet ports with additional Broadcom 5709 daughter card
Optical / diskette	Optional optical / USB only
Front & Rear ports	*Front:* two USB (Vers 2.0), graphics (DB-15) *Rear:* two USB (Vers 2.0), serial (9-pin), graphics (DB-15), two ethernet (RJ-45), one RJ-45 (sys mgmt) / no parallel port
Graphics	SVGA / Matrox G200eV integrated in IMM on systemboard / 16MB DDR2-250MHz SDRAM std/max
Systems Mgmt	**Integrated Management Module (IMM)** / VSC452 / WPCT201BA0WG / integrated / provides system and environmental monitoring, event recording, alert capability / TPM 1.2 / ASR / SOL / IPMI 2.0 / SMASH /upgradeable to Remote Presence, blue screen capture via optional IBM Virtual Media Key
Diagnostics	**Light Path Diagnostics**™ (LED lights indicate failing component) and on-board diagnostics
Security	Power-on password / administrator password / unattended boot / selectable boot / unattended start mode
Publications	**Installation Guide and Documentation CD**
Keyboard / mouse	None standard (because rack-based) / USB only
Power supply(s)	*Std/Max:* one or two/two 460W, 675W or 675W HE / hot-swap / rear access / auto restart / redundant with two / auto-sensing
Cooling	**Calibrated Vectored Cooling™** *Std/Max:* three / hot-swap

2U Rack with 2.5" HS SAS





Slot 1: PCI-Express x8, full length, full height
Slot 2: PCI-Express x8, low profile adapter with full height bracket
Slot 3: PCI-Express x8, full length, full height
Slot 4: PCI-Express x8, half length, full height
**can be converted to from 4 x8 slots 2 x16 slots via optional riser

Max internal disk capacity:
2.5: SAS models: 4TB² with eight 500GB SFF disks(std)
2.5: SAS models: 8TB² with sixteen 500GB SFF disks(opt)

Xeon E5506 2.13GHz / 4C / 4MB L3 Cache	46M1079
Xeon E5507 2.26GHz / 4C / 4MB L3 Cache	59Y4016
Xeon E5620 2.4GHz / 4C / 12MB L3 Cache	59Y4020
Xeon E5630 2.53GHz / 4C / 12MB L3 Cache	59Y4021
Xeon E5640 2.66GHz / 4C / 12MB L3 Cache	59Y4022
Xeon L5630 2.13GHz / 4C / 12MB L3 Cache	59Y4018
Xeon L5640 2.26GHz / 6C / 12MB L3 Cache	59Y4019
Xeon X5650 2.66GHz / 6C / 12MB L3 Cache	59Y4023
Xeon X5660 2.80GHz / 6C / 12MB L3 Cache	59Y4024
Xeon X5670 2.93GHz / 6C / 12MB L3 Cache	59Y4025
Xeon X5680 3.33GHz / 6C / 12MB L3 Cache	59Y4028
1x2GB (2Rx8) PC3-10600 DDR3 SDRAM Registered DIMM	49Y1433
1x2GB (1Rx4) PC3-10600 DDR3 SDRAM Registered DIMM	49Y1434
1x4GB (2Rx4) PC3-10600 DDR3 SDRAM Registered DIMM	49Y1435
1x8GB (2Rx4) PC3-10600 DDR3 SDRAM Registered DIMM	49Y1436
IBM Virtual Media key	46C7526
PCI-Express (2x8) Riser card	46M1072
+8 HDD Drive Enablement kit	59Y3825
Dual-port 1 Gb Ethernet Daughter card	46M1076
675 Watt Hot-swap Power Supply Option (US)	46M1075

Other options at **ibm.com**/products/us

- Quick release adapter slots (no screws)
- Configuration/Setup Utility: F1 at startup
- Diagnostics (preboot DSA): F2 at startup
- Network Boot: F12 at startup
- Front indicators LEDs: Power-on LED, HDD activity LED, locator LED, system information LED, and system-error LED
- Predictive failure analysis on disk options, memory, power supplies, and fans in conjunction with IBM Director can alert the system administrator of an imminent component failure
- Rack: H 3.36" x W 17.5" x D 27.5" (H 85.4mm x W 443.6mm x D 698mm)
- 46.5 to 55 pounds
- Stealth black color

LIMITED WARRANTY[3]

- **3 year parts and labor**
- **International Warranty Service[5]**
- **On site, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time[7]**
- **3 year on site warranty service upgrade options (in eligible locations):[7]**
  - **9 hr coverage, Mon-Fri excluding holidays, 4 hr response time** (ServicePac® 21P2077)
  - **24 hr x 7 day coverage, 4 hour average response time** (ServicePac 21P2078)
  - **24 hr x 7 day coverage, 2 hour average response time** (ServicePac 21P2093)
- **Other ServicePac options at http://www.ibm.com/services/us/its/pdf/wamomxeu.pdf**
- **24x7[14] toll-free support for warranty issues during the warranty period[3]**

See footnotes for important warranty information

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